DOCUMENT RESUME

ED 257 528 JC 850 303

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TITLE St. Louis Community College and the Local Economy: An Estimate of the College's Economic Impact.
INSTITUTION Saint Louis Community Coll., Mo.
PUB DATE [84]
NOTE 16p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Community Colleges; *Economic Factors; Economic Research; *Educational Economics; Expenditures; *School Community Relationship; Two Year Colleges
IDENTIFIERS *Economic Impact; Economic Impact Studies

ABSTRACT

This report presents results of a study conducted to estimate the economic impact of St. Louis Community College (SLCC) on the local economy. Introductory material discusses the purpose of economic impact studies, and an analysis of the demography of SLCC and the St. Louis area is provided. Next, the project model used in the study is presented, i.e., a cash flow model which quantifies in monetary terms social factors such as reduced unemployment and increased economic development and determines monetary impacts by computing annual expenditures of the college, college staff, and students. The following section presents study results in the areas of human capital, cash flow, and assessments of direct and indirect impacts. Highlights of the study include these findings: (1) total college expenditures in the St. Louis area were $9,073,000, total employee expenditures were $16,608,000, total college-related expenditures by students totalled $65,279,000, and the total direct dollar impact on the St. Louis economy attributed to the presence of the college was $91,560,000; (2) using a multiplier of 2.5 (as an estimate that for every dollar spent in the area an additional $2.50 is generated in the local economy) the total multiple dollar impact due to the college's existence was $228,900,000; and (3) for every dollar the college invested in the local economy through the purchase of goods and services an additional $24 were generated. Estimates used to assess the economic impact of the college are appended. (HB)

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ST. LOUIS COMMUNITY COLLEGE AND THE LOCAL ECONOMY: AN ESTIMATE OF THE COLLEGE'S ECONOMIC IMPACT

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I. INTRODUCTION:

All organizations in a community interact with each other in some way. These interactions may be direct or indirect. In an attempt to assess the impact of any one organization on the community, both direct and indirect impacts must be addressed.

The interaction between an organization and the community is a two-way process. This process is affected by the community's inputs into the organization and the organization's outputs into the community.

This report assesses the economic impact that the St. Louis Community College (SLCC) has on the St. Louis Area (CMSA).1 The College is a major organization in the St. Louis Area and an assessment of its economic impact on the Area should prove worthwhile to College administrators as they plan for the aquisition of additional funds.

As the competition for scarce governmental resources and local tax dollars increases it will be more important for the College to exhibit its economic worth to the Community. Taxpayers and legislators alike are demanding that educational institutions be more accountable to the public.

II. BACKGROUND:

A.) St. Louis Community College

Since the College's inception, approximately 412,000 people have enrolled in at least one course. In the Fall, 1983 semester, 33,918 students enrolled at SLCC. Seventy percent (23,898) of these students were classified as part-time and 30 percent (10,020) attended full-time. The average credit hour load for Fall, 1983 was 7.5 credit hour. Thirty percent of the students were under 21 years years of age. Fifty-three percent were 21 to 35 years of age. Fourteen percent were 36 to 50 years of age, and three percent of the students were over 50 years of age.

The College recognizes its responsibility to the Community as it continues to strive to provide high-quality, low-cost education. The mission and objectives of the College are captured by Board Policy 2.1.

BOARD POLICY 2.1

> "ST. Louis Community College recognizes the dignity and worth of all human beings and believes that postsecondary education should be available to

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1. CMSA = Consolidated Metropolitan Statistical Area. This includes the Missouri counties of: St. Louis City; St. Louis County; Jefferson; St. Charles; and Franklin, and the Illinois counties of: Madison; Monroe; Clinton; St. Clair; and Jersey.

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all who can benefit from it. The College further believes that education should be a rewarding experience offered in an environment that fosters the growth and well-being of all members of the community it serves.

Therefore, St. Louis Community College accepts a responsibility for developing and maintaining appropriate educational programs and supportive services responsive to the needs of persons beyond high school age and of the community it serves. To meet these needs, the College will offer accessible, high-quality, educational programs and services including developmental courses, college transfer, career, and general education courses and curricula through the Associate Degree. In addition, the college will provide a comprehensive program of student and community services and continuing education. The college will seek to achieve this mission within the limits of its legal and fiscal capabilities."

B.) St. Louis Area:

The 1980 Census data revealed that the St. Louis Area's population was 2,323,843 (1,425,335 resided in SLCC's designated service area).2 The St. Louis Area's population declined approximately 2.4 percent from 1970 to 1980. In addition the net out-migration (3) rate during the 1970's was 7.7 percent.

Since 1980, the Area's population has increased approximately .23 percent (5400 people) and the net out-migration rate has slowed to 2.3 percent. It is estimated that the Area's population will increase about three percent by 1986 (estimated population by 1986 = 2,401,900) 4.

The unemployment rate for the St. Louis Area was 9.5 percent in December, 1983 which was a decrease from 10.2 percent in December, 1982. In December, 1983 the Total Non-Agricultural employment was 993,800 (22 percent Manufacturing and 78 percent Non-Manufacturing). Comparable figures for December, 1982 were: Total Non-Agricultural employment, 976,400; 22 percent, Manufacturing; and 78 percent Non-Manufacturing. 5

Based on a recent survey of St. Louis Area's businesses and industries, the 10 fastest growing jobs in the next five years could be: General Sales; Secretaries; Computer Specialists; Health Technicians; Food Service Workers; Accoutants; Professional Managers; Insurance Sales; Real Estate Sales; and Mechanics, Repairers, and Installers. 6

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2. SLCC's service area = St. Louis City, St. Louis County and portions of Jefferson and Franklin Counties.
3. Net Out-Migration = [Base Pop. + (Births - Deaths)] - Current Pop.
4. Source: East West Gateway Coordinating Council
5. Source: Missouri Division of Employment Security
6. An Assessment of Employment & Training Needs of Businesses & Industries in the St. Louis Area St. Louis Community College, 1984.

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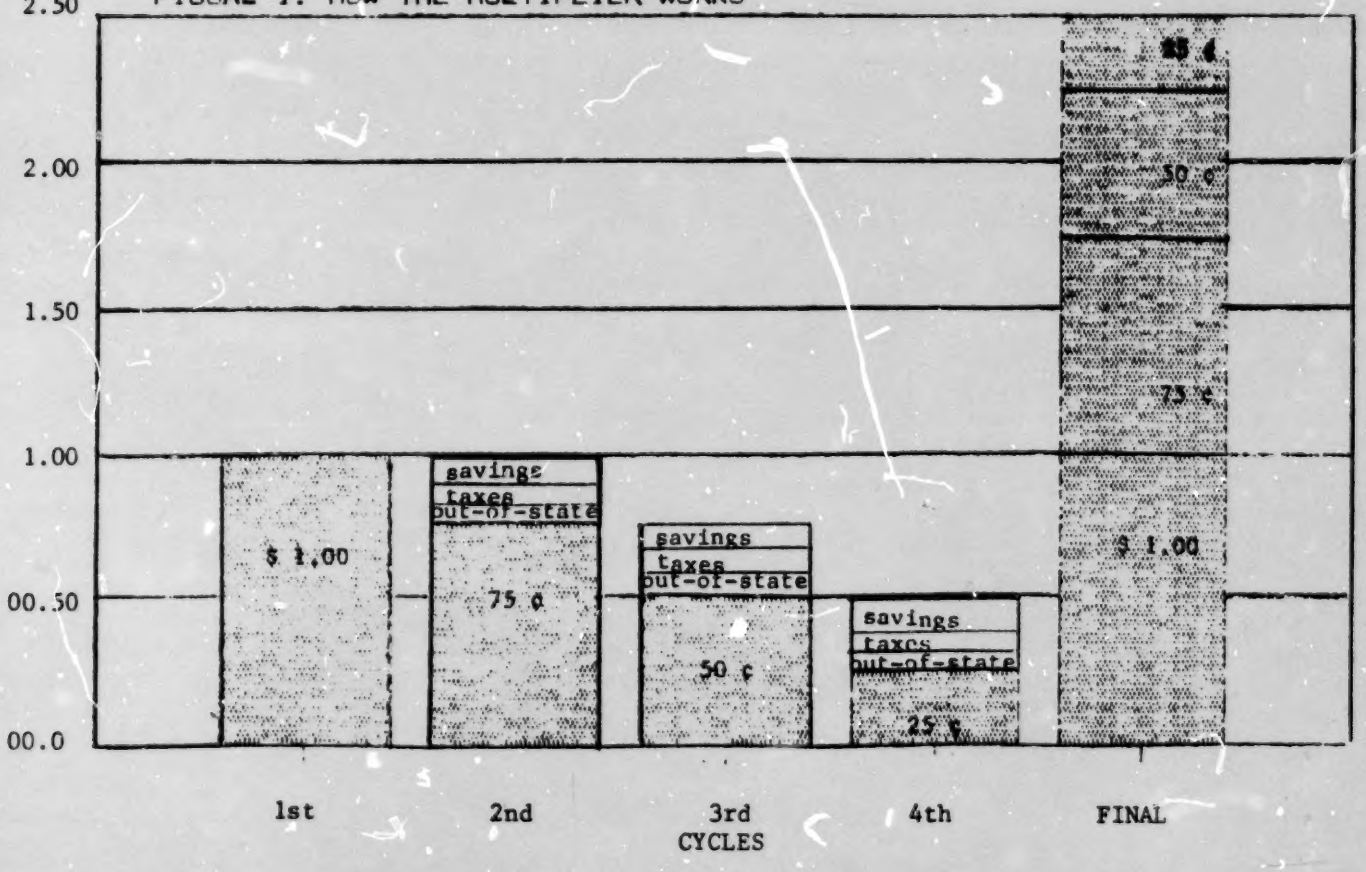
III PROJECT MODEL:

An attempt to assess the economic impact of a quasi-collective service like education must include a review of both monetary and social factors. These two factors are not necessarily separate entities, however for the purpose of this project monetary factors will be assessed through a Cash-Flow Model; social factors are such items as reduced unemployment, increased economic development and a more educated population.

Monetary impacts can be determined by computing annual expenditures of the College, College's staff, and College's students. These College-related expenditures can first be summed to estimate the direct economic impact which SLCC has on the St. Louis Area.

Portions of any dollar spent by an organization in a community will be re-spent in the community by other organizations in subsequent rounds of spending. For example, portions of capital construction dollars spent by the College will be re-spent by the construction firm for materials; the construction firm's supplier will re-spend a segment of the dollar they receive, and so on. This re-spending process is referred to as the Multiplier Effect, because it represents the multiple impact of an initial expenditure (See Figure 1). Thus College expenditures will impact the Local economy directly (initial spending) and indirectly (subsequent spending cycles).

FIGURE 1. HOW THE MULTIPLIER WORKS



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In this investigation, a conservative figure of 2.5 has been chosen as an estimate of the final impact of original expenditures.7 Thus, for every dollar spent by an organization in the Community, $2.50 is being generated in the Local economy.

A major social benefit which the College provides is the production of trained labor for the St. Louis economy. This trained labor force can be viewed as an input of "human capital" into the Local economy. Although benefits to the Area's economy from "human capital" are more difficult to measure, several examples of such benefits will be discussed in this report.

III METHODS:

The three major data sources for this investigation were: a survey of SLCC employees; official College records; and Census reports.

The survey was part of an overall internal planning project. The following items were collected through the survey:

1. Percentage of employees who live in the St. Louis CMSA;
2. Percentage of employees who do not live in the CMSA;
3. Percentage of employees who rent and monthly rent expenditures;
4. Estimates of staff expenditures for non-housing items; and
5. Estimates of staff expenditures in the St. Louis Area.

Data collected from official College records were:

1. College expenditures for capital and operation;
2. Estimate of the percentage of College expenditures in the St. Louis Area.8
3. Total dollar amount spent for Student Activities;
4. Total dollar amount for salary expenditure;
5. Total number of full-time staff;
6. Total number of part-time staff;
7. Average annual college-related expenditures (9) by part-time students (excludes fees, and room and board);
8. Average annual college-related expenditures (9) by full-time students (excludes fees, and room and board).

Census data reviewed included the following items: percentage of unemployed and the percentage of people 25 years of age and over with no college education by zipcode; educational attainment of the unemployed; and income by zipcode.

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7. Caffrey and Isaacs (1971) suggest that the Multiplier should range from 1.5 to 3.0.
8. Purchase orders for the months of September, October, January, February, and July were examined and the average percent spent in the St. Louis Area was computed.
9. College-related expenses = Books/Supplies; Personal Items(clothing, entertainment, medical, etc.); and Transportation.

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IV RESULTS:

A.) Human Capital

The College's production of human capital for the Local economy provides the Area with several important benefits. Hirsch,et.al.,:1964 suggests that education will increase the productivity of the average worker. The College provides individuals with the opportunity to enhance their current job skills and thereby increase their productivity. (In the Spring, 1983 semester, 53% of the first-time students surveyed enrolled to upgrade their present job skills (10.) In addition, the importance of improving job skills is evidenced by the number of companies who have some type of college-tuition reimbursement plan.

Employment and the increased earning power of employed workers are important resources to a local economy. As unemployment is reduced and earning power increased, the local economy can expect an increase in tax dollars (based on more workers and higher salaries) and a decrease in welfare payments.

College education is usually associated with an increase in employability and earning power. A correlation analysis between college education and unemployment, and college education and income for the zipcodes in the College's service area reveals the following correlation coefficients.

1. The correlation between the percentage of individuals unemployed and the percentage of individuals 25 years of age and over with no college education is $r = +.827$.

   This suggests that as the percentage of people 25 and over with no college education increases, unemployment may also increase.

2. The correlation between the percentage of individuals 25 and over with no college and the percentage of individuals with incomes over $30,000 is $r = -.881$.

   This suggests that as the percentage of people 25 and over with no college education increases the percentage of people with incomes over $30,000 may decrease.

Additional data form the Missouri Division of Employment Security reveal that 82 percent of the individuals who were unemployed in 1982 and 1983 did not have any college education.

By providing a low-cost, high-quality opportunity for a college education, SLCC helps people secure and maintain employment, thereby aiding the St. Louis economy.

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10. Crosstabulation Analysis of First Time Student Survey Data, St. Louis Community College, Spring, 1983.

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In addition, SLCC's Metropolitan Re-Employment Project has given numerous displaced workers the opportunity to experience additional training and education, plus assistance in finding employment.

These contributions by SLCC also help the overall economic development of the St. Louis Area, as businesses and industries are more likely to remain or locate in an area which has a highly educated population.

B.) Cash Flow:

As previously mentioned in this report, portions of the dollars spent by the College are re-spent by other ogranizations in the St. Louis Area. This section of the report will attempt to estimate both the direct and multiplied dollar impact the College has on the Local economy.

The following presents a breakdown of revenues and expenditures of SLCC for the fiscal year 1983-84.

REVENUE SOURCES	
1. Local Tax	$13,630,000
2. State Aid	$19,850,000
3. Student Fees	$13,400,000
4. Federal Aid	$ 1,500,000
5. Interest Revenue	$ 1,975,000
6. External Grants and Contracts	$ 1,500,000
TOTAL	$51,855,000

(For a percentage breakdown by category see Figure 2 on page 7.)

EXPENDITURES	
1. Personnel Costs	$41,955,000
2. Development/Contingency Fund	$ 200,000
3. Operating Costs	$ 8,372,000
4. Capital Costs	$ 3,066,000
5. Spending of Grant and Contract $'s	$ 1,500,000
TOTAL	$55,093,000

(For a percentage breakdown by category see Figure 3 on page 8.)

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Figure 2: REVENUE SOURCES OF 1983-84

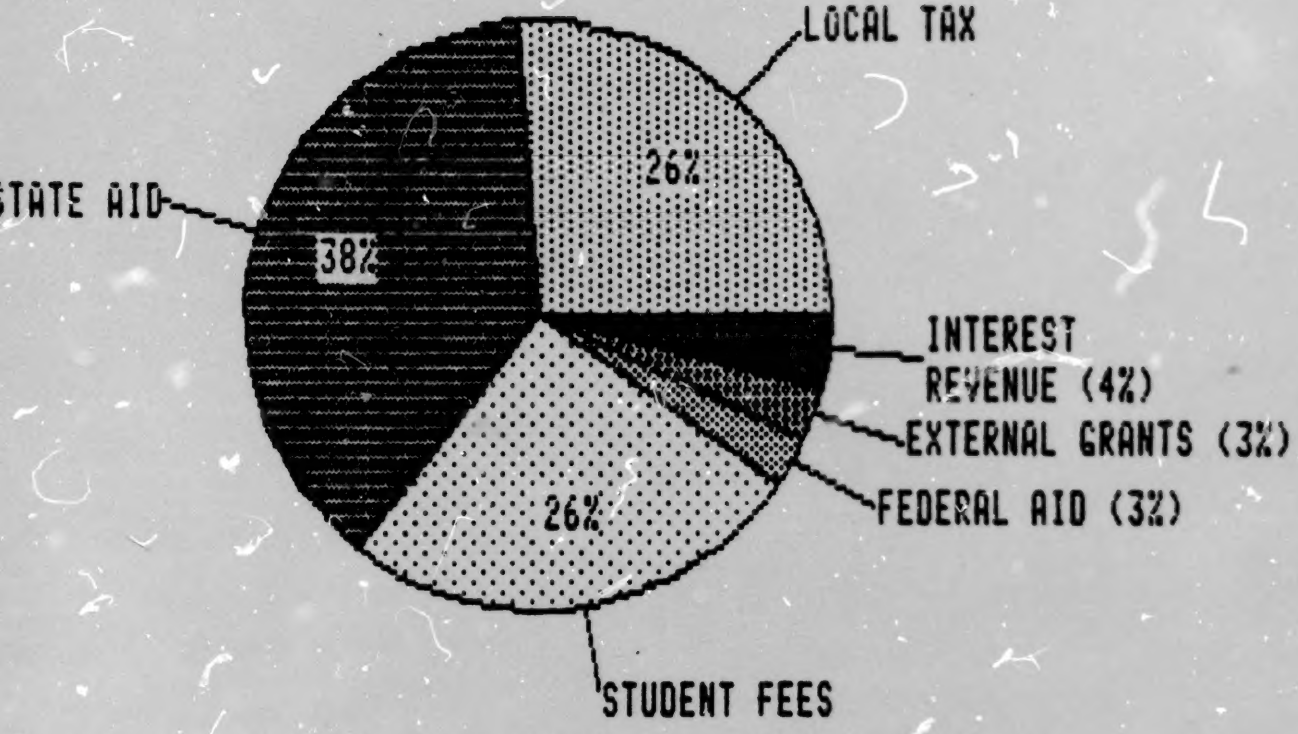
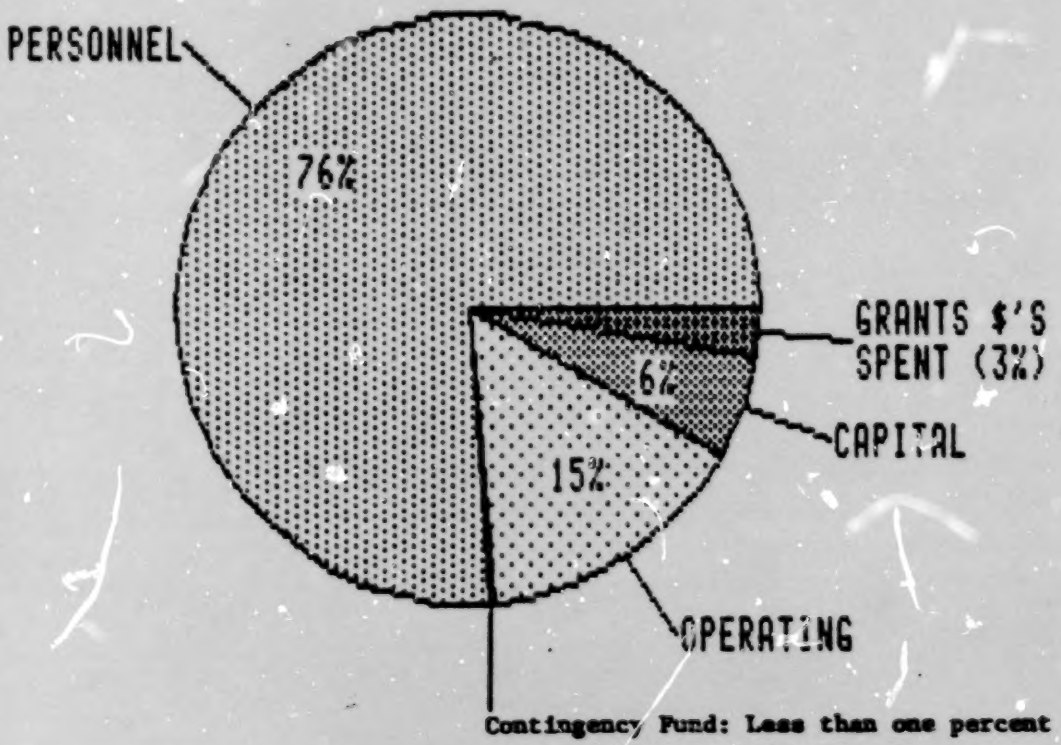


Figure 3: EXPENDITURES FOR 1983-85



Survey results were employed to compute several items in the Cash Flow section. These results were:

1. Ninety-nine percent of the respondents reported that they live in a county in the St. Louis CMSA;
2. Approximately 20 percent (19.4%) of the full time employees who responded indicated that they rent an apartment or home;
3. The average monthly rent was computed as $301.90;
4. On the average, respondents stated that they spend nearly 55 percent of their disposable income on non-housing items (mortgage payments not included); and
5. On the average, respondents said they spend 85 percent of their disposable income in the St. Louis Area.

** DIRECT IMPACT **

The total direct dollar impact which the College has on the Local economy is equal to:

TOTAL COLLEGE EXPENDITURES IN THE AREA	+	TOTAL EMPLOYEE EXPENDITURE IN THE AREA (does not include mortgage payments)	+	TOTAL STUDENT EXPENDITURES IN THE AREA (excluding fees)

TOTAL COLLEGE EXPENDITURES IN THE AREA..... $9,673,000

a.) College operating and capital dollars spent in the Area = $9,056,000 *

b.) Total Student Activity dollars spent in the Area = $617,000

TOTAL EMPLOYEE EXPENDITURES IN THE AREA..... $16,608,000

a.) Disposable income (salaries) of in-Area employees spent in the Area = $16,514,000 (excluding mortgage payments)

b.) Expenditures by out-of-Area full-time employees spent in the Area = $14,000

c.) Rental expenses by full-time employees who live in the Area = 80,000

TOTAL COLLEGE RELATED EXPENDITURES BY STUDENTS..... $65,279,000

a.) Total college-related expenditures by full-time students = $22,645,000

b.) Total college-related expenditures by part-time students = $42,634,000

TOTAL DIRECT DOLLAR IMPACT ON THE ST. LOUIS ECONOMY ATTRIBUTED TO THE PRESENCE OF THE COLLEGE..... $91,560,000

(For a percentage breakdown by category see Figure 4 on page 10.)

* For a description of how each sub-item was computed, see Appendix I

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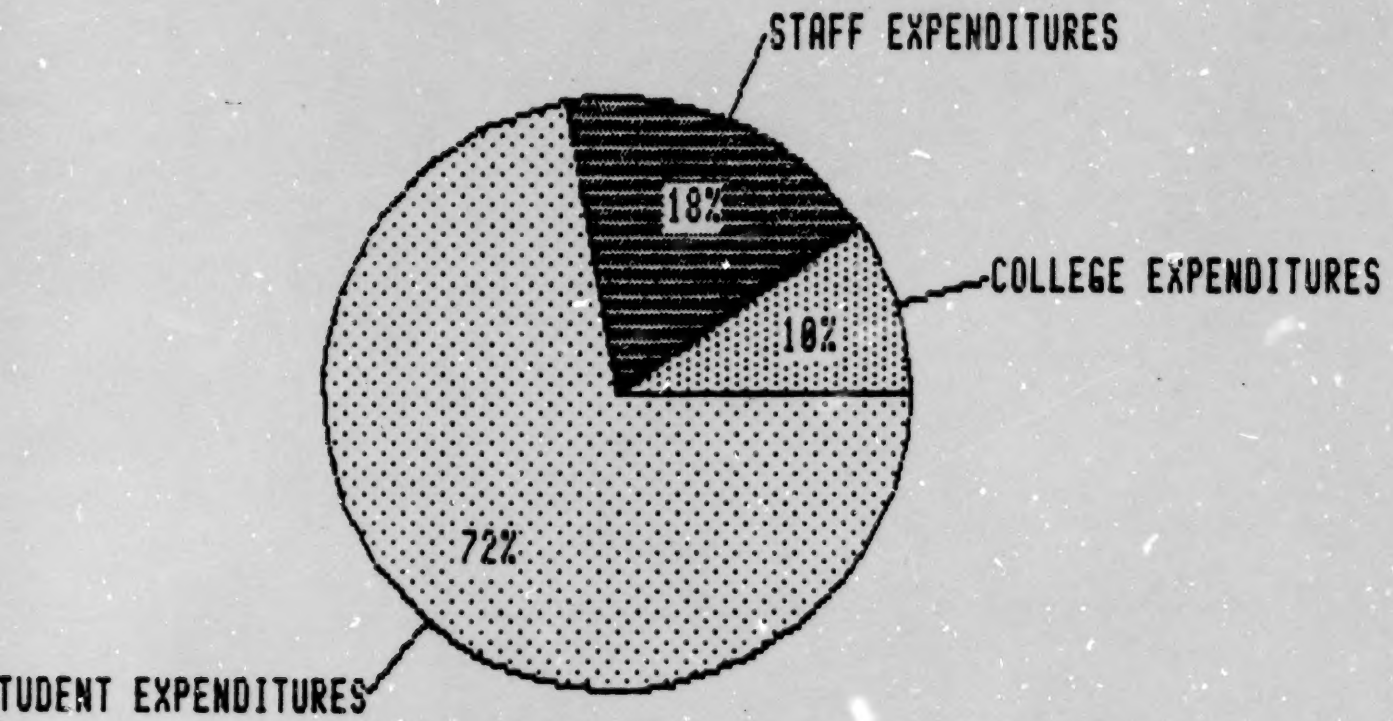
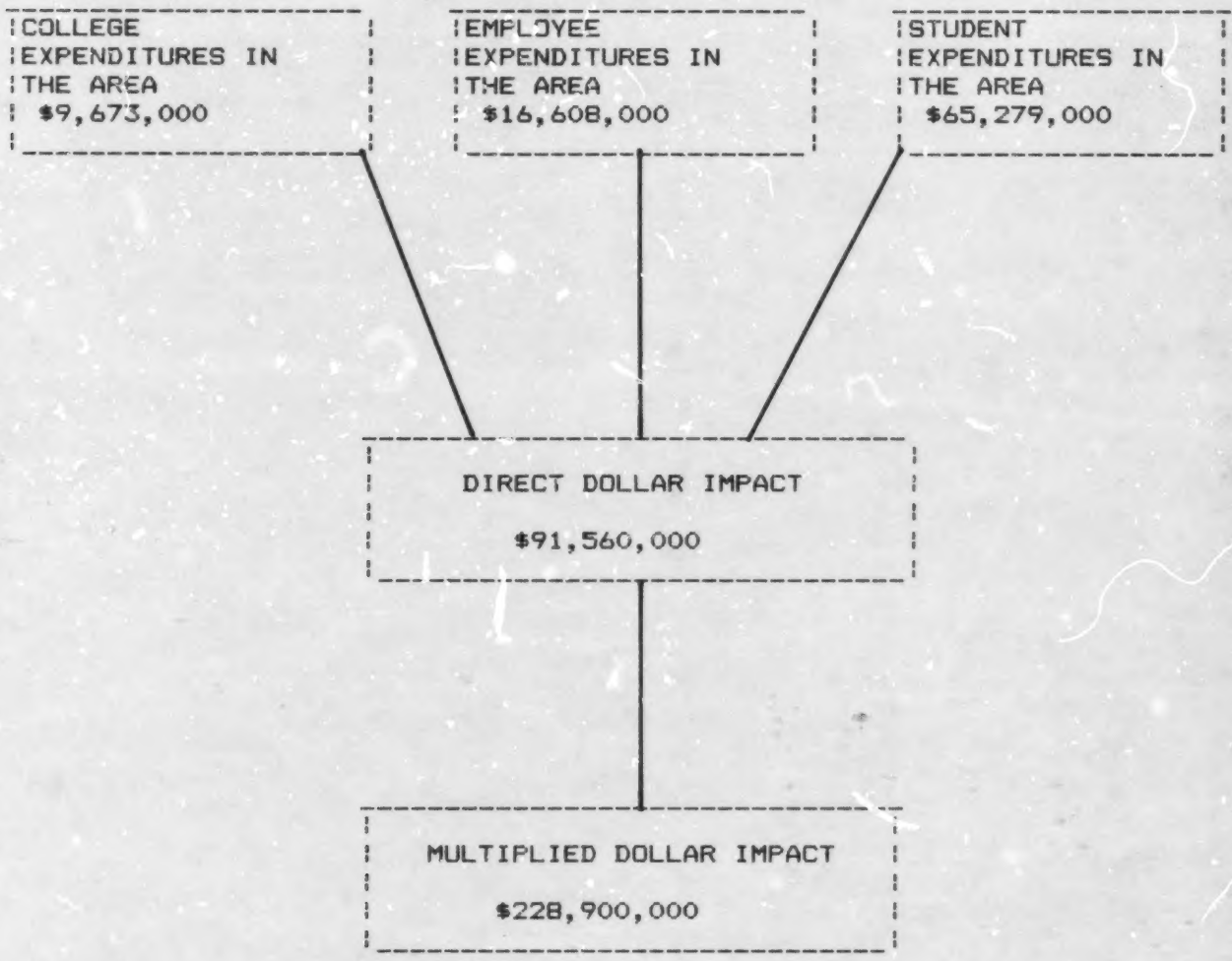
Figure 4: COMPONENTS OF DIRECT ECONOMIC IMPACT



** INDIRECT DOLLAR IMPACT **

It is estimated that for every dollar spent in the Area, an additional $2.50 is generated in the Local economy (Multiplier = 2.5). Using the 2.5 Multiplier, the TOTAL MULTIPLE DOLLAR IMPACT DUE TO THE COLLEGE'S EXISTENCE IS $228,900,000.


COLLEGE EXPENDITURES IN THE AREA $9,673,000
EMPLOYEE EXPENDITURES IN THE AREA $16,608,000
STUDENT EXPENDITURES IN THE AREA $65,279,000
DIRECT DOLLAR IMPACT $91,560,000
MULTIPLIED DOLLAR IMPACT $228,900,000

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Based on these estimates, the total number of dollars generated due to the existence of the College ($228,900,000) is 24 times larger than the amount the College spent for goods and services in the Local economy. Thus for every dollar the College invests in the Local economy through the purchase of goods and services 24 additional dollars are generated.

V CONCLUSION:

This report has attempted to describe the economic impact which SLCC has on the Local economy. This project analyzed both cash flow and human capital.

Although a linear cash flow model was used and not all economic variables which might affect a local economy were included (demand and time deposits, local investments, etc.) it does provide an estimate of the College's economic impact in terms of annual dollars.

In general, one can conclude that the 24 to 1 investment ratio reflects the College's positive economic impact on the Area. In addition, the College's programs and other educational services help to reduce unemployment, increase workers' earning power, and assist in economic development by providing a well educated labor force.

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APPENDIX I

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APPENDIX I

1. College operating and capital costs spent in the Area:

(Total Operating and Capital costs) X (Average percent spent by College in the Area--Figure = 70%)
+ (Grant & Contract $'s Spent X .70)

2. Total Student Activity dollars spent in the Area:

(Total Student Activity dollars) X (Average percent spent by College in the Area--Figure = 70%)

3. Disposable income of in-Area employees spent in the Area (excludes mortgage payments):

(College Costs for salaries) X (Percent of who live in-Area) X (Average percent spent on non-housing items) X (Average Percent Spent in the Area)

4. Expenditures by out-of-Area full-time employees spent in the Area:

(# of Full-time staff) X (Percent of out-of-Area staff) X (1,000) *

5. Rental expenditures by full-time staff who live in the Area:

(# of Full-time staff) X (Percentage of full-time staff who rent) X (Average monthly rent)

6. Total College-related expenditures by full-time students:

(# of Full-time students) X (Estimate for expenditures by full-time students--Excludes fees, and room and board, figure used was 2,260) **

7. Total College-related expenditures by part-time students:

(# of part-time students) X (Estimate for expenditures by part-time students--Excludes fees, and room and board, figure used was 1,784) ***

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* Caffrey and Isaacs (1971) suggest $1,000 as an estimate of expenditures in the Area by out-of-Area employees.

** This is a yearly estimate of expenditures by full time students based on data from the financial aid offices.

*** This is a yearly estimate of expenditures by part time students based on data from the financial aid offices.

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